



SATURN V PROGRAM DIRECTIVE

SATURN V PROGRAM DIRECTIVE NUMBER: 9

DATE: April 1, 1965

SUBJECT: SATURN V PROGRAM CONTROL SYSTEM

I. PURPOSE

This Program Directive:

1. Authorizes implementation of the Program Control System.
2. Describes actions required for implementation of the Program Control System.
3. Assigns responsibilities and authorities for implementation and execution of the Program Control System.

Enclosed is the Program Control System Plan which describes the system and its operation.

II. SCOPE

The Saturn V Program Control System consists of several parts:

1. Baseline Definition
2. Performance Measurement and Analysis
3. Problem Resolution System
4. Management Reporting System
5. Program Control Center

each of which can be described in terms of specific objectives, policies, and requirements.

Enclosure

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III. DEFINITIONS

- A. Program Control System - the method by which a program baseline is established, progress is plotted, problems are highlighted, corrective actions are taken, and management is kept informed. This total process provides "program control".
- B. Baseline Definition - the baseline definition consists of a number of major Program Elements which identify and describe requirements necessary to maximize program effectiveness, considering:
 - 1. Cost
 - 2. Schedules
 - 3. Performance
- C. Program Elements - the program elements are the major areas of work in the program, and are generally functionally aligned. Each of these major Program Elements, e.g., Logistics, Finance, Testing, may be further divided into "Sub-elements", which describe more specific activities, e.g., "configuration identification" and "configuration accounting" within "Configuration Management".
- D. Program Element Plan - a plan for each major Program Element which describes requirements, identifies sub-elements, discusses the approach for execution of the element, and states methods of measuring progress and generally exercising control of that element.

IV. PROGRAM CONTROL SYSTEM IMPLEMENTATIONA. Baseline Definition

- 1. Following is a listing of Program Elements which comprise the Baseline Definition. The office primarily responsible for each Program Element is noted:

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IV. A. 1. (Continued)

	<u>Program Element</u>	<u>Responsible Office</u>
a.	Management Plan	I-V-P
b.	Schedule Control System Plan	I-V-P
c.	Procurement/Contracts Plan	I-V-P/I-CO
d.	Documentation Plan	I-V-P/I-RM
e.	Configuration Management Plan	I-V-C
f.	Equipment Management Plan	I-V-E/I-V-G
g.	Logistics Support Plan	I-V-E
h.	Facilities Plan	I-FP
i.	Manning Requirements	I-V-P
j.	Finance Plan	I-V-P
k.	Technical Requirements and Definitions	I-V-E
l.	Reliability and Quality Assurance Plan	I-V-Q
m.	Testing	I-V-T
n.	Launch and Mission Operations Plan	I-V-F
o.	Data Interchange Plan	I-V-P
p.	Growth Potential Proposal	I-V-E

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IV. A. (Continued)

2. Steps for implementing the Program Element:

The offices primarily responsible for the various Program Elements listed in paragraph IV.A.1., above, are responsible for the:

a. Preparation of a Plan for their respective Program Element. These individual plans will:

- (1) Satisfy requirements established by higher level documents (e. g., Apollo System Specification, Apollo System Test Requirements Document, etc.)
- (2) Define the major Program Element's application within the Saturn V Program, including the applicability of the element to Stage and Vehicle GSE Hardware and data.
- (3) Define the relationship of the major Program Element to the overall Saturn V Program as well as its interfaces with other closely related elements.
- (4) Identify the sub-elements within each major Program Element.
- (5) Describe the approach by which each major Program Element and supporting sub-element will be accomplished. (What, When, Where, Who and How.)
- (6) State how the element will be controlled and monitored. This will include description of reporting requirements, and methods to be utilized in measuring and analyzing performance against objectives.
- (7) Be submitted through the Program Control Office for approval by the Program Manager.

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IV. A. 2. (Continued)

- b. Preparation of a Program Directive for implementing their respective Program Element Plans identified in paragraph IV. A. 1., above. These Program Directives shall establish authorities and responsibilities for accomplishing the plan for the Program Element. Program Directives will be submitted through the Program Control Office for approval by the Program Manager.
- c. Issuance of Operating Procedures or Instructions necessary for implementing and executing the various sub-elements of the major Program Elements. The office responsible for the Program Element Plan will prepare and issue these Procedures and Instructions.

B. Performance Measurement and Analysis

1. Performance measurement and analysis is the critical comparison of program progress to established Program Element requirements and objectives.
2. Each office assigned responsibility for a Program Element will:
 - a. Continuously monitor and assess status of its respective Program Element.
 - b. Include in its respective Program Element Plan the method for controlling and measuring progress against established Program Element baseline requirements.
3. The Program Control Office shall review each Program Element Plan to ascertain the adequacy of performance measurement and analysis methods.

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IV. (Continued)

C. Problem Resolution System

1. The Problem Resolution System is the method by which selected problems are resolved. The system includes:
 - a. Problem Identification and Impact Assessment
 - b. Problem Assignment
 - c. Action Item Resolution
 - d. Problem "Close Out"
2. The Program Control Office will prepare a separate procedure describing this system.

D. Management Reporting System

1. The management reporting system consists of recurring and unscheduled reports required to manage and disseminate program data.
2. Each office assigned responsibility for a Program Element will describe the reporting system to be used for its respective element as an integral part of the Program Element Plan. (Reference paragraph IV. A. 2. a., above.)
3. The Program Control Office shall review each Program Element Plan to ascertain the adequacy of the management reporting system.

E. Program Control Center

1. The Program Control Center is a focal point for the display of selected baseline data against which performance can be measured.

IV. E. (Continued)

2. Each office assigned responsibility for a Program Element will recommend to the Program Control Office data to be displayed in the Program Control Center. Through review and evaluation of these recommendations and the Program Element Plans, the Program Control Office will establish Program Control Center display requirements.
3. The Program Control Office will prepare a separate procedure describing the operations of the Program Control Center.

V. RESPONSIBILITY AND AUTHORITY

A. Saturn V Program Manager shall be responsible for:

1. Administration of the Program Control System.
2. Approval of Program Element Plans and corresponding implementing Program Directives.

B. Staff Offices assigned responsibility for Program Elements shall perform the following:

1. Preparation, implementation and administration of Program Element Plans to ensure a completely integrated and compatible Saturn V Program.
2. Preparation and issuance of Program Directives, Operating Procedures and Instructions as necessary to implement and execute Program Element Plans.
3. Development of a method for monitoring, assessing, controlling, reporting and displaying those functions or activities necessary to assure the achievement of objectives and requirements of the Program Element Plans.

V. (Continued)

C. Program Control Office shall be responsible for:

1. Definition and activation of the Program Control System.
2. Assisting the Saturn V Program Manager in the overall administration of the Program Control System.
3. Operation and maintenance of the Problem Resolution System.
4. Operation and maintenance of the Program Control Center.
5. Reviewing Program Element Plans to ascertain whether adequate coverage has been included for performance measurement and analysis and management reporting.
6. Determination of adequate display requirements through review and evaluation of Program Element Plans and recommendations received from the various offices.
7. Serving as a centralized focal point for the approval and release of Program Element Plans and Program Directives.

D. Stage Offices shall be responsible for compliance with the requirements set forth by Program Element Plans, Program Directives, Operating Procedures and Instructions.

VI. IMPLEMENTATION SCHEDULE

- A. May 17, 1965 - First draft of Program Element Plans submitted to Program Manager by responsible offices.

VI. (Continued)

- B. May 17 to June 21, 1965 - Review and approval of Program Element Plans by Program Manager.
- C. July 26, 1965 - Complete issuance of Program Directives for all major Program Element Plans.



Arthur Rudolph
Manager, Saturn V Program

1 Enc:
Program Control
System Plan

Distribution:

Mr. Maus, E-DIR
Col. O'Connor, I-DIR
Mr. Stone, I-RM
Mr. Goldston, I-RM
Mr. Goodrum, I-PL
Mr. Cook, I-PL
Mr. Barnett, I-FP
Col. Hirsch, I-CO
Each Saturn V Staff and Project Office